

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BOARD OF PATENT APPEALS AND INTERFERENCES**

In re patent application of:  
Fontoura et al.

Serial No.: 10/723,391

Filed: November 25, 2003

Group Art Unit: 2168

Examiner: Wong, Joseph D.

Atty. Docket No.: ARC9920030080US1

For: USING INTRA-DOCUMENT INDICES TO IMPROVE XQUERY  
PROCESSING OVER XML STREAMS

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Commissioner for Patents  
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**APPELLANTS' REPLY BRIEF TO EXAMINER'S ANSWER**

Sirs:

Appellants respectfully reply to the Examiner's Answer, mailed September 22, 2008, in the following Brief.

## **BRIEF REPLY**

### **I. STATUS OF CLAIMS**

Claims 1, 13, 25, and 37-53, all the claims pending in the application, are under appeal.

The Examiner's Answer, mailed September 5, 2008, sustains the rejection of claims 1, 13, 25, and 37-53 under 35 U.S.C. §102(e) as anticipated by U.S. Patent Application Publication No. 2003/0159112 to Fry.

Appellants respectfully traverse the rejection based on the following discussion.

### **II. RESPONSE TO ANSWER'S ARGUMENTS**

Summary of Invention: The present invention describes a system and method of query processing, using a streaming application programming interface (API) for a mark-up language data stream of a textual document, in which: an ordered index of all textual elements of the mark-up language data stream, comprising tag identifiers and end positions for each of the textual elements, is produced; all the tag identifiers of the ordered index are scanned, by a processor, to determine whether a match exists between any of the tag identifiers and the query; a matched textual element is parsed only if a tag identifier matches the query; and the parsing of an unmatched textual element is skipped, when the tag identifier does not match the query.

#### **Examiner's Argument**

Regarding the rejection of the rejection of the independent claim 1, and similarly for independent claims 13, 25, and 37, the Examiner maintains that Fry teaches a method (interpreted to be an intended use) of query processing by streaming parser APIs; and scanning by a processor (Fig. 1, item 106 meets the limitation), all tag identifiers of the ordered index to determine if there exists a match between a query and any of the tag identifiers ([0031]), wherein the ordered index is stepped until the element to be extracted is processed by a base processor. (Examiner's answer, page 3, regarding claim 1).

### **Appellants' Argument**

In contrast to the present invention, Appellants respectfully submit that Fry does not explicitly disclose, teach or suggest query processing by using a streaming application programming interface (API) for a mark-up language data stream of a textual document, as does the present invention. In addition, nowhere does Fry explicitly disclose, teach or suggest scanning, by a processor, all tag identifiers of the ordered index to determine if there is match between a query and any of the tag identifiers, as does the present invention. In addition, nowhere does Fry disclose, teach or suggest using a streaming API for a mark-up language data stream of a textual document to be queried. Instead, Fry discloses locating and reading an element type tag of an XML document and then parsing the element by the base parser. The Examiner has "interpreted" the use of Fry to be beyond that of "System and Method for XML Parsing", which is the title of Fry's invention. Nowhere does Fry use the term, "query".

Furthermore, although the Examiner mentions, in passing, the ordered index being stepped through, the Examiner does not disclose that the "streaming parser gives parsing control to the programmer by exposing a simple iteration-based API to the programmer. A programmer can ask for the next event, or pull the next event, rather than handling the event in a callback. This gives the programmer more procedural control over the processing of the XML document. A streaming parser also allows the programmer to stop processing the document, skip ahead to the specific sections of the document, and/or get subsections of the document as mini DOM trees." (Paragraph [0027, last sentence and paragraph [0028]). That is, the parsing of Fry is under programmer control. (emphases added).

In contrast, the present invention clearly describes scanning, by a processor (not a programmer), all tag identifiers of the ordered index to determine if there exists a match between a query and any of the tag identifiers and either parsing a matched textual element, if a tag identifier matches the query, or skipping an unmatched textual element for parsing, if a tag identifier does not match the query. The scanning, matching, and either parsing or skipping of the present invention is not performed iteratively under the procedural control of a programmer, as in Fry. Thus, Fry does not explicitly disclose, teach or suggest at least the present invention's features of: "scanning, by a processor, all

tag identifiers of said ordered index to determine if there exists a match between a query and any of said tag identifiers", as recited in independent claim 1 and as similarly recited in independent claims 13, 25, and 37.

Upon not matching the tag identifier, which might include an element type tag, to the query, the present invention skips parsing the unmatched textual element. Skipping the parsing relates to the present invention because "there is a need for a novel technique that can reduce parsing time in the context of processing XQuery queries over XML documents" (Specification, page 3, lines 1 and 2).

For at least the reasons outlined above, Appellants respectfully submit that Fry does not disclose, teach or suggest the present invention's features of: "A method for query processing ... scanning, by a processor, all tag identifiers of said ordered index to determine if there exists a match between a query and any of said tag identifiers", as recited in independent claim 1; "A system for query processing ... a processor adapted to scan all tag identifiers of said ordered index to determine if there exists a match between a query and any of said tag identifiers", as recited in independent claims 13 and 37; and "A program storage device readable by computer comprising a program of instructions executable by said computer to perform a method for query processing ... scanning, by a processor, all tag identifiers of said ordered index to determine if there exists a match between a query and any of said tag identifiers", as recited in independent claim 25. Accordingly, Fry fails to anticipate, or to render obvious, the subject matter of independent claims 1, 13, 25, and 37, and dependent claims 38-53 under 35 U.S.C. §102(e).

In view of the foregoing, the Board is respectfully requested to reconsider and withdraw the rejection of claims 1, 13, 25, and 37-53 under 35 U.S.C. §102(e) as anticipated by Fry.

## VIII. CONCLUSION

In view of the foregoing, the Appellants respectfully submit that the cited prior art does not disclose, teach or suggest all of the present invention's features described by independent claims 1, 13, 25, and 37, and as such, claims 1, 13, 25, and 37 are patentable over Fry. Furthermore, Appellants respectfully submit that dependent claims 38-53, which depend from independent claims 1, 13, 25, and 37, are similarly patentable over Fry. Thus, the Appellants respectfully request that the Board reconsider and withdraw the rejections of claims 1, 13, 25, and 37-53 and pass these claims to issue.

Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0441.

Respectfully submitted,

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